REMARKS

This Amendment is filed in response to the Office Action mailed on December 30, 2009. All objections and rejections are respectfully traversed.

Claims 1-49 and 59-61 are currently pending.

Claims 1, 13, 19, 27, 33, 42, and 48 have been amended.

Claims 50-58 have been cancelled without prejudice.

Claims 59-61 have been added.

Claim Rejections - 35 UC § 103

At paragraphs 3-4 of the Office Action, claims 1-4, 6-36, and 38-58 were rejected under 35 U.S.C. §103 as being unpatentable over Blumenau et al., U.S. Patent No. 6,421,711 (hereinafter "Blumenau"), in view of Wang et al., U.S. Patent No. 7,155,463 (hereinafter "Wang").

1. (Currently Amended) A system configured to simplify management of a clustered storage system having a plurality of failover modes, the system comprising:

a user interface system that allows a user to define a plurality of failover modes in a the clustered storage system, wherein each failover mode automatically configures one or more ports on a selected storage system or a partner storage system in response to a failover condition, *wherein the partner storage system is configured to receive requests directed to the partner storage system and the selected storage system, each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system*; and

a command set implemented by the user interface system, the command set including a first command and a second command,

the first command configured to permit the user to specify a specific initiator group (igroup) to utilize one or more ports for data access proxying in the clustered storage system wherein the

igroup is a logical named entity assigned to one or more addresses that are associated with one or more initiators,

the second command configured to set a cluster mode, the cluster mode including at least one of the plurality of failover modes in which a storage system is to operate,

wherein the command set further provides information specific to the failover operations of the one or more ports to the user on the user interface system.

By way of background, Blumenau discloses a storage controller with at least one physical port and a plurality of virtual ports. A virtual switch routes storage requests from the physical port to the virtual ports. The storage controller includes a graphical user interface (GUI) that includes a grid of logical volumes to storage adapter ports. Additionally, at each intersection on the grid, the target/LUNs assigned to provide the administrator with a view of the mappings of LUNs to logical storage volumes and storage adapters. An administrator can use "mount" and "unmount" commands for mounting and unmounting storage volumes to storage ports. "A graphical user interfaces provides a mechanism for a system administrator to set and view the mapping of LUNs to logical storage volumes and the storage adapter ports used for accessing the physical storage volumes that make up the logical storage volumes." *See* col. 29 line 67 - col. 29 line 4.

Wang teaches technique for managing replication of data in a data storage environment by grouping logical devices. *See* Abstract. In particular, Wang provides a logical configuration for each Data Storage System in the data storage environment. Each Data Storage System includes data storage devices that may be logically configured as a standard device (STD) and a mirror of the STD denoted as a BCV device. In this configuration, whenever a data transfer is made to the STD, the data is also transferred to the BCV. Each of these logical devices may be made available and addressable to a host or other computer through a host or Computer adaptor and a device adaptor. Furthermore, in the event an error or fault condition occurs in a Data Storage System in Wang's network, data may be recovered from all of the storage devices by using data mirrored over to storage devices on a remote data storage system.

Applicant respectfully urges that the combination of Blumenau and Wang, taken

alone or in any combination does not teach or suggest Applicant's claimed novel *"wherein the partner storage system is configured to receive requests directed to the partner storage system and the selected storage system, each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system"* and *"wherein the command set further provides information specific to the failover operations of the one or more ports to the user on the user interface system."*

As noted in the specification, various commands may be implemented in a known user interface (UI) systems for a clustered storage system to provide status of ports associated with the storage system. However, these commands typically do not provide information that is failover or proxy specific such as, e.g., whether the port is a virtual port or a physical port or how the port is to be used. Additionally, conventional UI systems lack the capability to set cluster modes for use of various ports in error situations. Although these systems, may permit the UI system to create ports to be utilized during a failover or takeover, they do not allow for establishing ports for proxying data access commands or setting the use of ports on a per-initiator basis.

In further detail, in Applicant's claimed invention, a user interface is used to simplify management of a clustered storage system. The user interface defines a plurality of failover modes for operating the cluster in cluster mode. A command set implemented by the user interface system provides information specific to the failover operations of the one or more ports to the user on the user interface system. Specifically the command set utilizes a first and a second command. The first command is configured to permit the user to specify a specific initiator group (igroup) to utilize one or more ports for data access proxying in the clustered storage system wherein the igroup is a logical named entity assigned to one or more addresses that are associated with one or more initiators. The command set also includes a second command for the user to set the cluster mode. This cluster mode is at least one of the plurality of failover modes in which a storage system is to operate. Each failover mode automatically configures one or more ports on a selected

storage system or a partner storage system in response to a fail over condition *configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system*. This allows the partner storage system to receive requests directed to the partner storage system and the selected storage system. That is, the port on the partner storage system assumes the identity of the selected (failed) storage system in order to receive requests directed to the selected (failed) storage system. In turn, the partner storage system is configured to receive requests directed to the partner storage system and the selected (failed) storage system.

Indeed, the Examiner seems to agree that "Blumenau does not explicitly teach ... wherein the partner storage system is configured to receive requests directed to the partner storage system and the selected storage system." *See* page 3 of the Office Action. Blumenau also fails to teach *"... each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system."* In particular, Blumenau merely teaches a virtual switch which routes storage requests from the physical port to the virtual ports in cases of failover but makes no mention of allowing the ports to be configured in such a manner. Blumenau makes no mention of configuring the partner storage system with a world wide node name and a world wide port name from the selected storage to allow the partner storage system to assume the identity of the selected storage system. However, Wang also fails to rectify the deficiencies of Blumenau.

Rather than teaching a partner storage system that is configured ""*... each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system,"* Wang, teaches a system and method for managing replication of data in a data storage system. That is, Wang does not refer to configuring the partner storage system with world wide node

names and world wide <u>port</u> names. *See* Abstract and col. 5 lines 18-31. Rather Wang merely teaches a data replication system rather than a system for managing ports.

Furthermore, neither Blumenau nor Wang teach "*wherein the command set further provides information specific to the failover operations of the one or more ports to the user on the user interface system*." As stated by the Examiner in the most recent response, "Blumenau does not explicitly teach ... the command set further providing information specific to <u>a failover operation of the one or more ports</u> ..." *See* Office Action page 3-4. However, Wang also fails to remedy the deficiencies of Blumenau in this case as well.

On page 4 of the Office Action, Wang is relied on as disclosing "a command set that provides information specific to the failover operations of one or more ports." However, Applicant respectfully disagrees. Wang makes no mention of providing any information about one or more ports. Nor does it teach a method of managing ports. Rather, Wang merely discloses <u>data monitoring</u> which would provide specific information about the data groups but not the port groups as is claimed by the Applicant. *See* col. 21 lines 15-25 and Abstract

Accordingly, Applicant respectfully urges that the combination of Blumenau and Wang, taken alone or in any combination, is legally insufficient to make obvious the presently claimed invention under 35 U.S.C. § 103 because of the absence of the Applicant's claimed novel "*wherein the partner storage system is configured to receive requests directed to the partner storage system and the selected storage system, each failover mode further configuring the partner storage system with a world wide node name and a world wide port name from the selected storage system to allow the partner storage system to assume the identity of the selected storage system*" and "*wherein the command set further provides information specific to the failover operations of the one or more ports to the user on the user interface system*."

At paragraph 5 of the Office Action, claims 5, 23, and 37 were rejected under 35 U.S.C. §103 as being unpatentable over Blumenau, in view of Clark, "IP SANs: A Guide

to iSCSI, iFCP, and FCIP Protocols for Storage Area Networks" published Nov. 26, 2001, hereinafter Clark.

Applicant respectfully notes that claims 5, 23, and 37 are dependent claims that depend from independent claims believed to be in condition for allowance. Accordingly, claims 5, 23, and 37 are believed to be in condition for allowance.

Conclusion

All independent claims are believed to be in condition for allowance.

All dependent claims are dependent from independent claims which are believed to be in condition for allowance. Accordingly, all dependent claims are believed to be in condition for allowance.

Favorable action is respectfully solicited.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

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